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1-535 U.S.

**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.

35.C14206

First Named Inventor or Application Identifier

EJI HAYASHI

Express Mail Label No.

PTO

**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

**ADDRESS TO:**Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

1. ☐ Fee Transmittal Form  
(Submit an original, and a duplicate for fee processing)

2. ☒ Specification Total Pages **31**

3. ☒ Drawing(s) (35 USC 113) Total Sheets **9**

4. ☒ Oath or Declaration Total Pages **1**

a. ☐ Newly executed (original or copy)

b. ☒ Unexecuted for information purposes

c. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 17 completed)  
[Note Box 5 below]

i. ☐ DELETION OF INVENTOR(S)

Signed Statement attached deleting  
inventor(s) named in the prior application, see  
37 CFR 1.63(d)(2) and 1.33(b).

5. ☐ Incorporation By Reference (useable if Box 4c is checked)  
The entire disclosure of the prior application, from which a copy of  
the oath or declaration is supplied under Box 4c, is considered as  
being part of the disclosure of the accompanying application and is  
hereby incorporated by reference therein.

6. ☐ Microfiche Computer Program (Appendix)

7. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)

a. ☐ Computer Readable Copy

b. ☐ Paper Copy (identical to computer copy)

c. ☐ Statement verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

8. ☐ Assignment Papers (cover sheet & document(s))

9. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney  
(when there is an assignee)

10. ☐ English Translation Document (if applicable)

11. ☐ Information Disclosure  
Statement (IDS)/PTO-1449 ☐ Copies of IDS  
Citations

12. ☐ Preliminary Amendment

13. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)

14. ☐ Small Entity ☐ Statement filed in prior application  
Statement(s) Status still proper and desired

15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)

16. ☐ Other: \_\_\_\_\_

17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No. \_\_\_\_/\_\_\_\_

**18. CORRESPONDENCE ADDRESS**

☒ Customer Number or Bar Code Label

**05514**

(Insert Customer No. or Attach bar code label here)

or ☐ Correspondence address below

NAME

Address

City

State

Zip Code

Country

Telephone

Fax



CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS (37 CFR 1.16(c))	28-20 =	8	X \$ 18.00 =	\$144.00
	INDEPENDENT CLAIMS (37 CFR 1.16(b))	4-3 =	1	X \$ 78.00 =	\$ 78.00
	MULTIPLE DEPENDENT CLAIMS (if applicable) (37 CFR 1.16(d))			\$260.00 =	\$ 0
				BASIC FEE (37 CFR 1.16(a))	\$690.00
	Total of above Calculations =				\$912.00
	Reduction by 50% for filing by small entity (Note 37 CFR 1.9, 1.27, 1.28)				0
	TOTAL =				\$912.00

19. Small entity status

- a. ☐ A Small entity statement is enclosed
- b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
- c. ☐ Is no longer claimed.

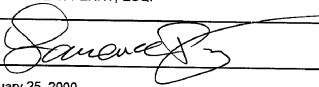
20. ☒ A check in the amount of \$ 912.00 to cover the filing fee is enclosed.

21. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the recordal fee is enclosed.

22. The Commissioner is hereby authorized to credit overpayments or charge the following fees to Deposit Account No. 06-1205:

- a. ☒ Fees required under 37 CFR 1.16.
- b. ☒ Fees required under 37 CFR 1.17.
- c. ☐ Fees required under 37 CFR 1.18.

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

NAME	LAWRENCE S. PERRY, ESQ.
SIGNATURE	
DATE	January 25, 2000

INFORMATION PROCESSING APPARATUS, INFORMATION  
PROCESSING METHOD, AND COMPUTER-READABLE  
MEMORY MEDIUM STORING PROGRAM THEREIN

5 BACKGROUND OF THE INVENTION

Field of the Invention

The invention relates to information processing  
apparatus and method having a printer driver for  
controlling a printing apparatus having a print-  
10 function to print, for example, outputted print data  
onto a paper and eject and a mail-box-function which  
can store the print data to a hard disk. The invention  
also relates to a computer-readable memory medium which  
stores a printer driver program therein.

15 Related Background Art

Hitherto, a printer driver has a print-function  
for actually ejecting a paper and printing when a print  
job is outputted. On a printing apparatus side, print  
data received from an information processing apparatus  
20 as a host computer having the printer driver is  
analyzed, an output image is formed, and a printing  
process is performed.

Among printing apparatuses each having a memory of  
a large capacity, there is also a printing apparatus  
25 such that received print data is successively and  
temporarily spooled in the memory of the large  
capacity, a printing order is controlled on the basis

of priorities and attributes of the print data, and a printing process is sequentially performed from a printer engine.

Further, in the recent printing apparatus, there is considered a mail-box-function such that print data is accumulated in a non-volatile storing unit such as a hard disk or the like of the printing apparatus main body and the printing is instructed from an operation panel of the printing apparatus main body, thereby performing the printing process for the first time.

The printer driver to form the print data, however, does not have the function to form the print data including the instruction such as to accumulate the print data into the printing apparatus main body as mentioned above, so that a mode to accumulate the print data into the memory has to be set by the operation panel of the printing apparatus main body.

#### SUMMARY OF THE INVENTION

It is, therefore, the first object of the invention that in case of using a mail-box-function for a printing apparatus having the mail-box-function, a function to designate a mail box of the printing apparatus as a destination of print data is installed for an information processing apparatus having a printer driver.

The mail-box-function considered in recent years

corresponds to one area that is common to the printing apparatus and a plurality of users accumulate print data into the same mail box (memory). Therefore, when the printing is instructed from the operation panel of the printing apparatus main body, which user's data exists in the mail box is known by the operator and there is a fear such that the print data is erroneously print processed.

It is, therefore, the second object of the invention that a plurality of mail box areas are provided for a printing apparatus and a function which can select any of a plurality of mail boxes of the printing apparatus to be designated as a destination is installed in an information processing apparatus having a printer driver.

When the user selects the print data by operating an operation panel of the printing apparatus main body, a list of data stored in the mail box is displayed. However, the contents to be displayed are a reading (receiving) time, a host name, and a file name based on an application which formed document data. That is, in the case where a Word document of a host name of "hayashi" has been accumulated in the mail box at 14:30 on January. 14, 1999, [19990114\_1430 : hayashi : Word document] is displayed on the operation panel. However, in the case where a plurality of files are accumulated in the mail box from the same person, it is

difficult to recognize them as files formed by the same application and there is a fear such that they are erroneously print processed.

It is, therefore, the third object of the invention that a function which can designate a document name that is displayed on the operation panel of the printing apparatus main body is installed in an information processing apparatus having a printer driver.

10 To accomplish the above objects, therefore, according to the invention, there is provided an information processing apparatus for forming print data which can be interpreted by a printing apparatus in accordance with the document data formed by an application, comprising: setting means for setting  
15 either a mail box mode to accumulate the print data into the printing apparatus without printing it or a printer output mode to sequentially print the print data received by the printing apparatus; and forming  
20 means for forming the print data by adding information indicative of a destination in the printing apparatus in accordance with the output mode set by the setting means.

Other features and advantages of the present invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which like reference characters designate

the same or similar parts throughout the figures thereof.

#### BRIEF DESCRIPTION OF THE DRAWINGS

5           Fig. 1 is a block diagram of a print system comprising a host computer and a printer;

          Fig. 2 shows software for printing in the host computer;

          Fig. 3 is a diagram of a memory map upon printing  
10   in the host computer or printer setting;

          Fig. 4 is a flowchart for a procedure to set a data destination on a picture plane;

          Fig. 5 is a flowchart for a procedure to set a data destination on the picture plane;

15           Fig. 6 is a diagram showing a data destination setting picture plane;

          Fig. 7 is a diagram showing a device setting picture plane;

          Fig. 8 is a diagram showing a picture plane to  
20   discriminate whether a mail box can be used or not;

          Fig. 9 is a diagram showing a picture plane to discriminate whether the mail box can be used or not;

          Fig. 10 is a diagram showing a data destination setting picture plane;

25           Fig. 11 is a diagram showing a data destination setting picture plane;

          Fig. 12 is a diagram showing a data destination

setting picture plane;

Fig. 13 is a diagram showing a message picture plane which is displayed in the case where a data destination is switched to a print-function;

5 Fig. 14 is a diagram showing a message picture plane which is displayed in the case where a data destination is switched to a mail-box-function; and

Fig. 15 is a diagram showing a mail box setting picture plane.

#### 10 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A print system comprising a printer having a function which can hold print data to a hard disk and a host computer using the printer will now be described  
15 as an embodiment of the invention.

[Construction of print system]

Fig. 1 is a block diagram of a print system comprising a host computer 3000 and a printer 1500.

In Fig. 1, reference numeral 3000 denotes the host  
20 computer according to the embodiment of an information processing apparatus of the invention. The host computer 3000 has a CPU 1 for executing a document process of a document in which a figure, an image, characters, a table (including a spreadsheet and the  
25 like), and the like mixedly exist on the basis of a document processing program or the like stored in a program ROM of an ROM 3. The CPU 1 integrately



controls each device that is connected to a system bus  
4.

An RAM 2 functions as a main memory, a work area,  
or the like of the CPU 1. A keyboard controller (KBC)  
5 controls a key input from a keyboard 9 or a pointing  
device (not shown). A CRT controller (CRTC) 6 controls  
the display of a CRT display 10. A setting picture  
plane of the printer, which will be explained  
hereinlater, is also displayed on the CRT 10.

10 A disk controller (DKC) 7 controls an access to an  
external memory 11 such as hard disk (HD), floppy disk  
(FD), or the like to store a boot program, a printer  
driver, various applications, font data, a user file,  
an edit file, and the like. A printer controller  
15 (PRTC) 8 is connected to the printer 1500 through a  
predetermined bidirectional interface (bidirectional  
I/F) 21 and executes a communication control process  
with the printer 1500. The CPU 1 executes, for  
example, a developing (rasterizing) process of an  
20 outline font to a display information RAM set on the  
RAM 2, thereby enabling WYSIWYG (What you see is what  
you get: function for making the display contents  
coincident with the print contents) on the CRT 10. The  
CPU 1 also executes programs to realize procedures for  
25 flowcharts, which will be explained hereinlater, opens  
various registered windows on the basis of commands  
instructed by a mouse cursor or the like (not shown) on

the CRT 10, and executes various data processes.

5 In the printer 1500, a CPU 12 integrately controls accesses to various devices connected to a system bus 15 on the basis of control programs or the like stored in a program ROM of an ROM 13 and outputs an image signal as output information to a printer engine 17 connected through an engine I/F 16.

10 Besides the mechanism to print, a staple stacker 171 is included in the printer engine 17. Although the staple stacker 171 is provided separately from the printer, since it operates in association with the printer engine, it is regarded as a part of the printer engine 17.

15 The CPU 12 can communicate with the host computer via the bidirectional I/F 21 and can notify the host computer 3000 of the information or the like in the printer. An RAM 19 functions as a main memory, a work area, or the like of the CPU 12. An input unit 18 controls a communication of status information or the like such as printing state information or the like with the host computer 3000 through the bidirectional I/F 21 and can notify the host computer 3000 of the information or the like in the printer.

20 A memory controller (MC) 20 controls an access to an external memory 14 such as hard disk (HD), floppy disk (FD), or the like to store a boot program, various applications, font data, a user file, an edit file, and

the like, and print data, which will be explained hereinlater. As for the external memory, a memory area is divided into a plurality of mail boxes, as will be explained hereinlater, and uses them.

5           An operation unit 1501 includes a display panel and a keyboard and allows information to be provided to the operator and allows a printing instruction or a selecting instruction to be inputted from the operator.

[Software construction of host computer]

10           In such a system, a construction on software for allowing the host computer 3000 to print is as shown in Fig. 2.

15           An application 201, a graphic engine 202, a printer driver 203, and a system spooler 204 exist as files stored in the external memory 11 and are program modules which are loaded in the RAM 2 and executed by an OS or a module using the module when they are executed.

20           The application 201 and printer driver 203 can be added to an FD as an external memory 11 or a CD-ROM (not shown) or can be added to an HD as an external memory 11 via a network (not shown). Although the application 201 stored in the external memory 11 is loaded in the RAM 2 and executed, when the printing is performed from the application 201 to the printer 1500, the application 201 is similarly loaded in the RAM 2 and the outputting (drawing) is performed by using the

25

graphic engine 202 which can be executed. Although data that is outputted from the application to the graphic engine differs depending on the kind of OS, for example, in case of using Windows (registered trademark of Microsoft Corporation), a GDI function is outputted as a drawing command to a GDI as a graphic engine.

The graphic engine 202 similarly loads the printer driver 203 prepared for every printing apparatus into the RAM 2 from the external memory 11, converts the GDI (Graphic Device Interface) function as an output of the application 201 to a DDI (Device Driver Interface) function, and outputs it to the printer driver 203.

On the basis of the DDI function received from the GDI, the printer driver 203 converts it to a printer control command comprising a PDL (Page Description Language) which can be interpreted by the printer 1500 and image data at a low level. The converted printer control command is outputted to the printer 1500 via the interface 21 through the system spooler 204 loaded in the RAM 2 by the OS. In this instance, the printer driver transmits information to control the mail box to the printer 1500 together with the print data in accordance with a procedure, which will be explained hereinafter.

Fig. 3 shows an example of a memory map in the RAM 2 at the time of printing in the host computer 3000 or at the time of setting of the printer. An application

32 performs the printing by using an OS 36 and a  
printing program (printer driver) 35. A BIOS 37 is a  
system called a basic input/output system. A program  
to drive a parallel interface, a serial interface, or  
5 the like which is connected to the printer 1500 is  
included in the BIOS 37. Related data 34 includes not  
only setting information for printing such as paper  
size, layout information, and the like but also setting  
information regarding a mail-box-function which is set  
10 and used by the printer driver and will be explained  
hereinlater.

A data destination setting procedure to use the  
mail-box-function will now be described with reference  
to flowcharts of Figs. 4 and 5 and display examples of  
15 Figs. 6 to 14.

The user sets a method of print processing in  
accordance with the printer to be used. As an example  
of the setting method, when the user calls a printer  
setting which is provided from the operating system  
20 (OS) or the like, the printer driver is called from the  
OS, a picture plane to set the setting information that  
is peculiar to the printer is displayed, and various  
items are set on this picture plane. According to the  
embodiment, it is assumed that the setting is performed  
25 by such a method.

Fig. 6 shows an example of a picture plane of  
performing the printer setting when the printer setting

is called by the user. In the example, there are setting items such as general, detail, page setting, finish, paper feed, and the like every setting and the user selects a desired picture plane in accordance with the information to be set.

Fig. 6 shows the example in which a page setting picture plane 601 is selected among the setting items. The user sets each item on this picture plane and sets a data destination by using the pointing device such as a mouse or the keyboard.

Fig. 4 or 5 is a flowchart for a procedure to set the data destination on the picture plane of Fig. 6.

First, in step S401, the CPU 1 executes a "Process for discriminating whether the mail box can be used or not". Fig. 5 is a flowchart for this process.

In step S501, whether the mail box can be used or not is determined by pressing a "Get device information" 701 or a check box 702 indicative of "Use mail box" in Fig. 7.

When the "Get device information" button 701 is pressed, a discrimination result about whether the mail box can be used or not can be automatically obtained from the printer. When the mail box can be used, the box number and the box name of the mail box of the printer are simultaneously obtained.

In the check box 702 of "Use mail box", the user sets whether the mail box can be used or not by the

manual setting.

Fig. 8 shows a state where it is determined that the mail box cannot be used by obtaining the construction information or a state of the check box 702 in Fig. 7 in the case where the user sets a state where the mail box cannot be used by the manual setting.

Fig. 9 shows a state where it is determined that the mail box can be used by getting the construction information or a state of the check box 702 in Fig. 7 in the case where the user sets a state where the mail box can be used by the manual setting.

In next step S502, the CPU 1 discriminates whether the mail box can be used or not from the setting (state of 702 in Fig. 7) of the printer driver. When it is determined that the mail box can be used, in step S504, the icon of an output mode displayed at the upper right position in Fig. 6 is pressed, namely, a mail box button 1001 is set to "Enable" as shown in Fig. 10. The right side of the output mode icon indicates the mail box button 1001 and the left side shows a printer output button.

When it is decided in step S502 that the mail box cannot be used, in step S503, a mail box button 1201 is set to "Disable" as shown in Fig. 12. A display state of the mail box button 1201 is a gray display.

After completion of the process for discriminating

whether the mail box can be used or not in step S401 in Fig. 4, the processing routine advances to a control of the destination.

In step S402, the CPU 1 discriminates whether the mail box button has been selected as a destination setting of the printer driver or not.

When the mail box button 1101 is selected as shown in Fig. 11, in step S403, a message of Fig. 14 is displayed to thereby promote the user to set the document name of the data to be transmitted and the box number and the user is allowed to set the document name and the box number on the user interface of the printer driver. The document name is a name for allowing the data stored in the mail box area of the printer main body to be displayed on the operation panel and allowing the user to identify it. For example, it is preferable for the user to set a name by which the contents can be easily known like "Materials for Meeting A" or the like.

In step S405, the printer driver sets internal data indicative of the destination to the mail box. When the user wants to set the document name of the data to be transmitted to the mail box, in step S407, a mail box setting button 1102 in Fig. 11 is pressed, a "Set mail box data" dialog box in Fig. 15 is opened and set on the user interface. Although not shown in Fig. 15, the box number and the box name of the mail box are



extracted from the device information obtained in step S501 in Fig. 5 and the box name is set and displayed in correspondence to the box number in Fig. 15. For example, the box number and the box name are displayed  
5 in the user interface of the printer driver on the host computer in Fig. 15 in a manner such that the box No. 0 is set to "Common Box", the box No. 1 is set to "First Party", the box No. 2 is set to "Second Party", the box No. 3 is set to "hayashi", the box No. 4 is set to  
10 "hosoi", the box No. 5 is set to "yamada", etc.

In step S408, the operator is allowed to designate a document name column 1501 of data to be transmitted and a mail box number column 1502 in Fig. 15, and the designated document name and mail box number are set to  
15 the printer driver.

The print data is stored on the basis of the designated box number so as to correspond to the number of mail box obtained by dividing the memory in the hard disk of the printer main body. The designated document  
20 name of the print data is registered in a management table in the printer. The box number and the data document name which are designated by the user in step S408 are displayed on the operation panel 1501 of the printer main body and can be confirmed.

25 When a printer output button is selected as shown in Fig. 10 as a discrimination result in step S402, a message of Fig. 13 is displayed in step S404 and the

internal data of the destination is set to the printer in step S406.

After the mail box or printer is set as a destination, in step S409, print data comprising a PDL (Page Description Language) or image data at a low level is formed on the basis of a print quality or print style which has been set by the printer driver, and further, the internal data showing the destination. The printer driver adds information indicative of the destination (mail box number or direct output) in the printing apparatus, forms the print data, and transmits the formed print data to the printing apparatus.

The invention can be applied to a system comprising a plurality of apparatuses (for example, a host computer, interface equipment, a reader, a printer, and the like) or can be also applied to an apparatus comprising one equipment.

The objects of the invention can be also accomplished by a method whereby a memory medium in which program codes of software to realize the functions of the embodiment mentioned above have been stored is fed to a system or an apparatus and a computer (or a CPU or an MPU) of the system or apparatus reads out and executes the program codes stored in the memory medium.

In this case, the program codes themselves read out from the memory medium realize the novel functions

of the invention and the memory medium in which the program codes have been stored constructs the invention.

As a memory medium to supply the program codes,  
5 for example, it is possible to use a floppy disk, a hard disk, an optical disk, a magnetooptic disk, a CD-ROM, a CD-R, a magnetic tape, a non-volatile memory card, an ROM, or the like.

The invention also incorporates not only a case  
10 where the computer executes the read-out program codes, so that the functions of the embodiment are realized, but also a case where an OS (Operating System) or the like which operates on the computer executes a part or all of the actual processes on the basis of  
15 instructions of the program codes, and the functions of the embodiment mentioned above are realized by those processes.

Further, the invention also incorporates a case  
where the program codes read out from the memory medium  
20 are written in a memory provided for a function expanding board inserted in the computer or a function expanding unit connected to the computer and, thereafter, a CPU or the like provided for the function expanding board or function expanding unit executes a  
25 part or all of the actual processes on the basis of the instructions of the program codes, and the functions of the embodiment mentioned above are realized by the

processes.

The program codes themselves which are installed to the computer in order to realize the functions and processes of the invention by the computer also realize the invention. That is, the computer programs themselves to realize the functions and processes of the invention are included in Claims of the invention.

As a method of supplying the computer program, the invention is not limited to the case where they are stored in an FD or a CD-ROM and read out by the computer and installed therein as mentioned above. The computer is connected to a homepage of the Internet by using a browser of the client computer and the computer program itself of the invention or a compressed file including an automatic installing function is downloaded from the homepage, so that the computer programs can be supplied. The invention can be also realized by a method whereby the program codes constructing the program of the invention are divided into a plurality of files and each file is downloaded from a different homepage. That is, a WWW server for downloading the program file to realize the functions and processes of the invention by the computer to a plurality of users is also incorporated in Claims of the invention.

The invention can be also realized by a method whereby the program of the invention is enciphered and

stored in a memory medium such as an FD or the like and distributed to the user, key information to decrypt is downloaded from the homepage through the Internet to the user who can clear predetermined conditions, and  
5 the enciphered program is executed by using the key information and installed to the computer.

As described above, according to the invention, in case of using the mail-box-function for the printing apparatus having the mail-box-function, the function to  
10 designate the mail box of the printing apparatus as destination of the print data is installed in the information processing apparatus having the printer driver. Therefore, the control mode can be switched to a mode of setting the destination to the mail box or  
15 the mode to print the print data as it is without setting such a mode by the operation panel of the printing apparatus main body, and the user can easily handle the mail box.

In the information processing apparatus having the  
20 printer driver, since which one of a plurality of mail boxes of the printing apparatus is designated as destination can be selected, the mail box divided per application can be efficiently used and the security to the print data in the mail box is improved.

25 In the information processing apparatus having the printer driver, since the document name to be displayed on the operation panel of the printing apparatus main

body can be designated by the printer driver, when the printing process of the print data stored in the mail box is performed by the operation panel of the printing apparatus main body, the operator can easily

5 discriminate the print data of a desired document. The printing is not vainly performed and the mail-box-function can be easily handled by the operator.

As many apparently widely different embodiments of the present invention can be made without departing

10 from the spirit and scope thereof, it is to be understood that the invention is not limited to the specific embodiments thereof except as defined in the appended claims.

WHAT IS CLAIMED IS:

1. An information processing apparatus for forming  
print data which can be interpreted by a printing  
apparatus in accordance with document data formed by an  
5 application, comprising:

setting means for setting either a mail box mode  
to accumulate the print data into said printing  
apparatus without printing it or a printer output mode  
to sequentially print the print data received by said  
10 printing apparatus; and

forming means for forming said print data by  
adding information indicative of a destination in said  
printing apparatus in accordance with the output mode  
set by said setting means.

15

2. An apparatus according to claim 1, further  
comprising:

display control means for, in the case where a  
mail-box-function of said printing apparatus cannot be  
20 used, displaying so as to make it possible to identify  
that a user interface to set the mail box mode by said  
setting means cannot be used.

3. An apparatus according to claim 2, further  
25 comprising obtaining means for obtaining device  
information from said printing apparatus,

and wherein said display control means displays

and controls whether the user interface to set the mail box mode can be used or not on the basis of said obtained device information.

5           4. An apparatus according to claim 3, further comprising box designating means for designating to which one of a plurality of mail box areas in said printing apparatus said print data is outputted when a mail box output is performed,

10           and wherein said box designating means displays a mail box list including a box number and a box name and designates on the basis of the device information obtained by said obtaining means.

15           5. An apparatus according to claim 2, further comprising manual setting means for setting whether a mail box can be used or not on the user interface of a printer driver,

20           and wherein said display control means displays and controls whether the user interface to set the mail box mode can be used or not on the basis of the setting by said manual setting means about whether the mail box can be used or not.

25           6. An apparatus according to claim 2, wherein when the output mode is switched by said setting means, said display control means displays a message indicating



that there is a change of the destination.

7. An apparatus according to claim 1, further comprising name designating means for designating a name of the print data to be transmitted to said printing apparatus when the mail box mode is selected by said setting means,

and wherein said name is a name to be displayed on an operation panel of said printing apparatus.

8. An information processing method of forming print data which can be interpreted by a printing apparatus in accordance with document data formed by an application, comprising:

a setting step of setting either a mail box mode to accumulate the print data into said printing apparatus without printing it or a printer output mode to sequentially print the print data received by said printing apparatus; and

a forming step of forming said print data by adding information indicative of a destination in said printing apparatus in accordance with the output mode set by said setting step.

9. A method according to claim 8, further comprising:

a display control step of, in the case where a

mail-box-function of said printing apparatus cannot be used, displaying so as to make it possible to identify that a user interface to set the mail box mode in said setting step cannot be used.

5

10. A method according to claim 9, further comprising an obtaining step of obtaining device information from said printing apparatus,

and wherein in said display control step, whether  
10 the user interface to set the mail box mode can be used or not is displayed and controlled on the basis of said obtained device information.

11. A method according to claim 10, further  
15 comprising a box designating step of designating to which one of a plurality of mail box areas in said printing apparatus said print data is outputted when a mail box output is performed,

and wherein in said box designating step, a mail  
20 box list including a box number and a box name is displayed and the designation is performed on the basis of the device information obtained in said obtaining step.

12. A method according to claim 9, further  
25 comprising a manual setting step of setting whether a mail box can be used or not on the user interface of a

printer driver,

and wherein in said display control step, whether the user interface to set the mail box mode can be used or not is displayed and controlled on the basis of the setting in said manual setting step about whether the mail box can be used or not.

13. A method according to claim 9, wherein when the output mode is switched in said setting step, a message indicating that there is a change of the destination is displayed in said display control step.

14. A method according to claim 8, further comprising a name designating step of designating a name of the print data to be transmitted to said printing apparatus when the mail box mode is selected in said setting step,

and wherein said name is a name to be displayed on an operation panel of said printing apparatus.

15. A computer-readable memory medium which stores a printer driver program for forming print data which can be interpreted by a printing apparatus in accordance with document data formed by an application, wherein said program comprises:

a code for setting either a mail box mode to accumulate the print data into said printing apparatus

without printing it or a printer output mode to sequentially print the print data received by said printing apparatus; and

5 a code for forming said print data by adding information indicative of a destination in said printing apparatus in accordance with said set output mode.

10 16. A medium according to claim 15, wherein said printer driver program further comprises:

15 a display control code for, in the case where a mail-box-function of said printing apparatus cannot be used, displaying so as to make it possible to identify that a user interface to set the mail box mode by said setting code cannot be used.

20 17. A medium according to claim 16, wherein said printer driver program further comprises an obtaining code for obtaining device information from said printing apparatus,

and said display control code displays and controls whether the user interface to set the mail box mode can be used or not on the basis of said obtained device information.

25

18. A medium according to claim 17, wherein said printer driver program further comprises a box

designating code for designating to which one of a plurality of mail box areas in said printing apparatus said print data is outputted when a mail box output is performed,

5           and said box designating code displays a mail box list including a box number and a box name and designates on the basis of the device information obtained by said obtaining code.

10           19. A medium according to claim 16, wherein said printer driver program further comprises a manual setting code for setting whether a mail box can be used or not on its own user interface,

15           and said display control code displays and controls whether the user interface to set the mail box mode can be used or not on the basis of the setting by said manual setting code about whether the mail box can be used or not.

20           20. A medium according to claim 16, wherein when the output mode is switched by said setting code, said display control code displays a message indicating that there is a change of the destination.

25           21. A medium according to claim 15, wherein said printer driver program further comprises a name designating code for designating a name of the print

data to be transmitted to said printing apparatus when the mail box mode is selected by said setting code,

and said name is a name to be displayed on an operation panel of said printing apparatus.

5

22. A printer driver program for forming print data which can be interpreted by a printing apparatus in accordance with document data formed by an application, comprising:

10 a code for setting either a mail box mode to accumulate the print data into said printing apparatus without printing it or a printer output mode to sequentially print the print data received by said printing apparatus; and

15 a code for forming said print data by adding information indicative of a destination in said printing apparatus in accordance with said set output mode.

20 23. A program according to claim 22, further comprising:

a display control code for, in the case where a mail-box-function of said printing apparatus cannot be used, displaying so as to make it possible to identify  
25 that a user interface to set the mail box mode by said setting code cannot be used.

24. A program according to claim 23, further comprising an obtaining code for obtaining device information from said printing apparatus,

and wherein said display control code displays and  
5 controls whether the user interface to set the mail box mode can be used or not on the basis of said obtained device information.

25. A program according to claim 24, further  
10 comprising a box designating code for designating to which one of a plurality of mail box areas in said printing apparatus said print data is outputted when a mail box output is performed,

and wherein said box designating code displays a  
15 mail box list including a box number and a box name and designates on the basis of the device information obtained by said obtaining code.

26. A program according to claim 23, further  
20 comprising a manual setting code for setting whether a mail box can be used or not on its own user interface,

and wherein said display control code displays and controls whether the user interface to set the mail box mode can be used or not on the basis of the setting by  
25 said manual setting code about whether the mail box can be used or not.

27. A program according to claim 23, wherein when the output mode is switched by said setting code, said display control code displays a message indicating that there is a change of the destination.

5

28. A program according to claim 22, further comprising a name designating code for designating a name of the print data to be transmitted to said printing apparatus when the mail box mode is selected by said setting code,

10

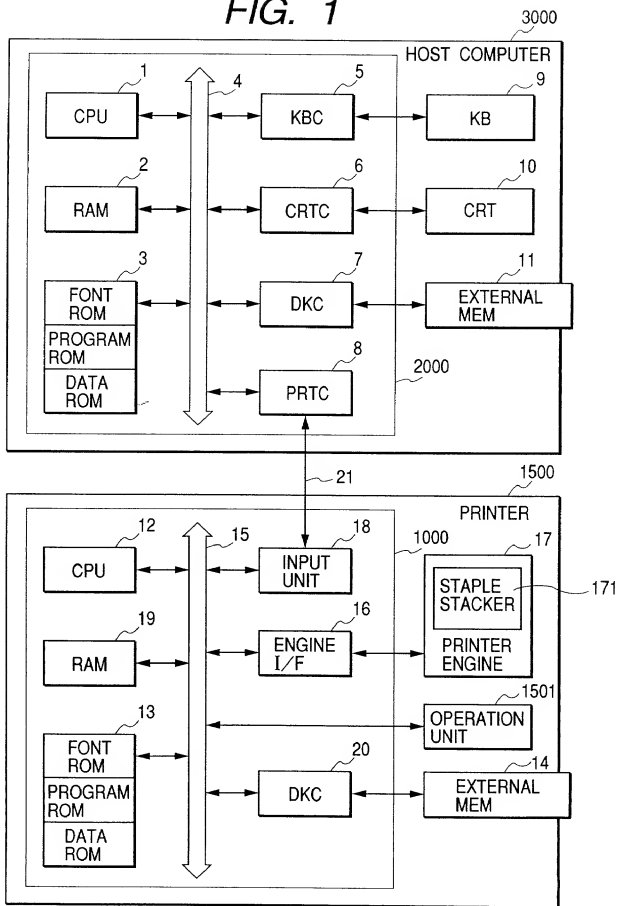
and wherein said name is a name to be displayed on an operation panel of said printing apparatus.

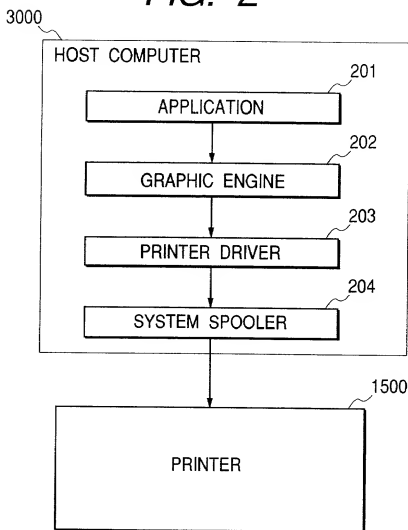
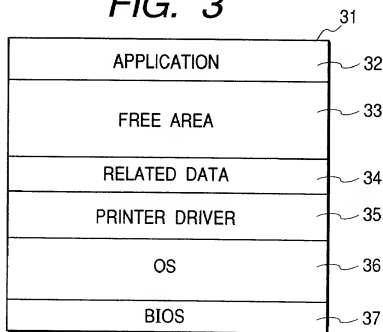


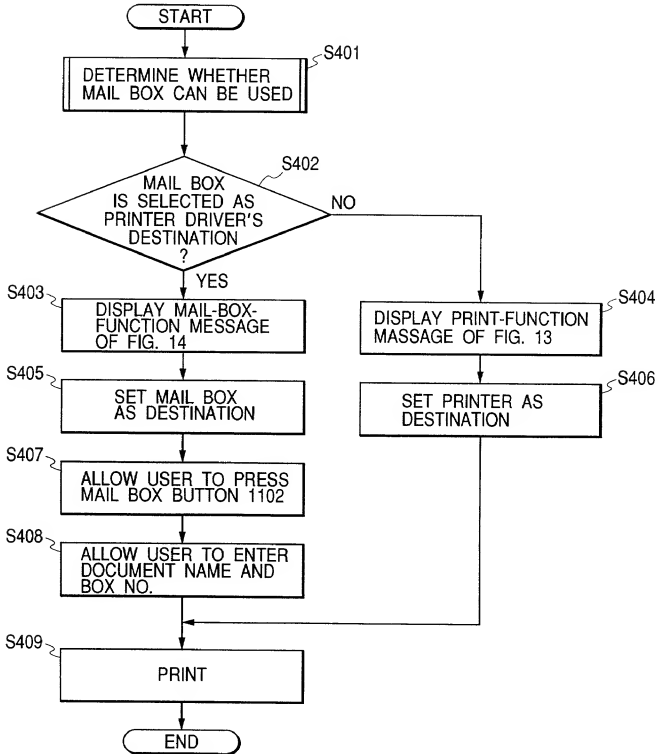
ABSTRACT OF THE DISCLOSURE

In an information processing apparatus for forming  
print data which can be interpreted by a printing  
apparatus in accordance with document data formed by an  
5 application in order to enable the user to easily set  
the switching between a printer and a mail box as  
destinations, a user interface which can set either a  
mail box mode to accumulate the print data into the  
printing apparatus without printing it or a printer  
10 output mode to sequentially print the print data  
received by the printing apparatus is provided.

FIG. 1



**FIG. 2****FIG. 3**

**FIG. 4**

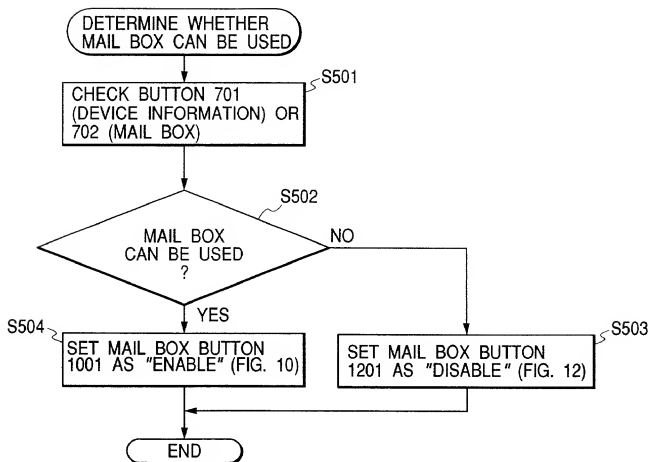
*FIG. 5*

FIG. 6






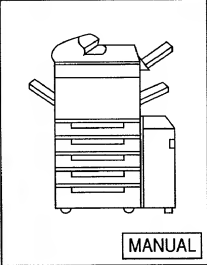
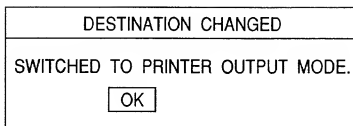
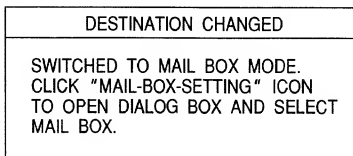
							? X
GENERAL	DETAIL	COMMON	PAGE SETTING	FINISH	PAPER FEED	PRINT QUALITY	DEVICE SETTING
FAVORITE (F) :			<input type="button" value="A4 STANDARD"/> <input type="button" value="ADD (D)"/> <input type="button" value="EDIT (E)"/>		<input type="button" value="Box 1"/> <input type="button" value="Box 2"/> <input type="button" value="Envelope"/>		
			<input type="button" value="A4"/> ORIGINAL SIZE (G) : <input type="text" value="A4"/>				
			<input type="button" value="A4"/> PAPER SIZE (O) : <input type="text" value="SAME AS ORIGINAL"/>				
			NO. OF COPIES (C) : <input type="text" value="1"/> (1 - 255)				
			PRINT DIRECTION : <input checked="" type="radio"/> PORTRAIT (T) <input type="radio"/> LANDSCAPE (S)				
			PAGE LAYOUT (L) : <input type="text" value="1 PAGE / SHEET (STANDARD)"/>				
			<input type="checkbox"/> ZOOM (M) : <input type="text" value="100"/> %				
			<input type="checkbox"/> STAMP (W) : <input type="text" value="SECRET"/>				
			<input type="button" value="STAMP-EDIT (Z)"/>				
   							
A4 (ZOOM : AUTO)							
<input type="button" value="USER-DEFINED PAPER (U)"/>			<input type="button" value="PAGE OPTION (N)"/>			<input type="button" value="RETURN TO STANDARD (R)"/>	
<input type="button" value="OK"/>		<input type="button" value="CANCEL"/>		<input type="button" value="APPLY (A)"/>		<input type="button" value="HELP"/>	

FIG. 7

						? X	
GENERAL	DETAIL	COMMON	PAGE SETTING	FINISH	PAPER FEED	PRINT QUALITY	DEVICE SETTING
			<p>PAPER FEED OPTION :</p> <p><input checked="" type="checkbox"/> 2-CASSETTE PEDESTAL (2)</p> <p><input checked="" type="checkbox"/> SIDE DECK (S)</p> <p><input type="checkbox"/> 4-CASSETTE PEDESTAL (4)</p> <hr/> <p>PAPER EJECTION OPTION (O) :</p> <p>NONE ▼</p> <hr/> <p>LIPS EXPANSION MEM (M) : 0 MB ▼</p> <p><input type="checkbox"/> USE MAIL BOX (X) : ~ 702</p> <p>INTERNAL SPOOLING (P) :</p> <p>AUTO ▼</p>				
			<div style="border: 1px solid black; padding: 2px;">FONT SETTING (F).....</div>		<div style="border: 1px solid black; padding: 2px;">PAPER FEED &amp; PAPER ASSIGNMENT (T).....</div>		
			701 ~ <div style="border: 1px solid black; padding: 2px;">GET DEVICE INFORMATION (G)</div>				
<div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">OK</div>			<div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">CANCEL</div>		<div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">APPLY (A)</div>		<div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">HELP</div>

*FIG. 8**FIG. 9**FIG. 10**FIG. 11**FIG. 12*



*FIG. 13**FIG. 14*

*FIG. 15*

SET MAIL BOX DATA ? X

DOCUMENT NAME (D):

SELECT MAIL BOX (B):

BOX NO.	BOX NAME
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

OK CANCEL HELP (H)

1501

1502

COMBINED DECLARATION AND POWER OF ATTORNEY  
FOR PATENT APPLICATION  
(Page 1)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled INFORMATION PROCESSING APPARATUS, INFORMATION PROCESSING METHOD, AND COMPUTER-READABLE MEMORY MEDIUM STORING PROGRAM THEREIN, the specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b), of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designates at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate, or PCT international application having a filing date before that of the application on which priority is claimed:

<u>Country</u>	<u>Application No.</u>	<u>Filed (Day/Mo./Yr.)</u>	<u>(Yes/No)</u> <u>Priority Claimed</u>
JAPAN	11-021683	JANUARY 29, 1999	YES

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

<u>Application No.</u>	<u>Filed (Day/Mo./Yr.)</u>	<u>Status (Patented, Pending, Abandoned)</u>
------------------------	----------------------------	--

I hereby appoint the practitioners associated with the firm and Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to the address associated with that Customer Number:

FITZPATRICK, CELLA, HARPER & SCINTO  
Customer Number: 05514

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Sole or First Inventor EIJI HAYASHI

Inventor's signature \_\_\_\_\_

Date \_\_\_\_\_

Citizen/Subject of JAPAN

Residence 21-11, SHUKUGAWARA 2-CHOME, TAMA-KU, KAWASAKI-SHI, KANAGAWA-KEN, JAPAN